

Amendments to the Claims:

1. (Currently Amended) A calcium channel $\alpha_2\delta_2\alpha_2\delta$ subunit ~~wherein that is soluble and retain the functional characteristics of the full-length or wild-type $\alpha_2\delta$ subunit from which it derives~~
 - (a) It is soluble and retains the functional characteristics of the full-length or wild type human $\alpha_2\delta_2$ subunit from which it derives;
 - (b) its δ peptide has a C-terminal truncation with respect to the complete δ peptide from which it originates, said truncation being sufficient to render the truncated δ peptide soluble; and
 - (c) its α_2 peptide comprises at least the ligand-interacting part(s) of the complete α_2 peptide from which it derives.
2. (Currently Amended) A calcium channel $\alpha_2\delta_2\alpha_2\delta$ subunit according to claim 1 wherein ~~the full-length or wild-type $\alpha_2\delta$ subunit from which it derives is of mammalian origin~~ the amino acid sequence consists of SEQ ID NO: 4, SEQ ID NO: 5 or SEQ ID NO: 6.
3. (Canceled)
4. (Canceled)
5. (Currently Amended) A calcium channel $\alpha_2\delta_2\alpha_2\delta$ subunit according to ~~any one of claims claim 1, 4 to 4,~~ wherein the full-length or wild-type $\alpha_2\delta_2\alpha_2\delta$ subunit from which it derives is naturally expressed in the cerebral cortical.
6. (Currently Amended) A calcium channel $\alpha_2\delta_2\alpha_2\delta$ subunit according to ~~any one of claims claim 1, 4 to 5,~~ wherein the full-length or wild-type $\alpha_2\delta_2\alpha_2\delta$ subunit from which it derives is voltage-dependent.
7. (Currently Amended) A calcium channel $\alpha_2\delta_2\alpha_2\delta$ subunit according to ~~any one of claims claim 1, 4 to 6,~~ wherein the $\alpha_2\delta$ subunit is cleaved.
8. (Currently Amended) A calcium channel $\alpha_2\delta_2\alpha_2\delta$ subunit according to ~~any one of claims claim 1, 4 to 7,~~ wherein the $\alpha_2\delta_2\alpha_2\delta$ subunit is cleaved into separate α_2 and δ peptides.
9. (Currently Amended) A calcium channel $\alpha_2\delta_2\alpha_2\delta$ subunit according to claim 8~~1~~, wherein the α_2 and δ peptides are disulfide-bridged.
10. (Currently Amended) A calcium channel $\alpha_2\delta_2\alpha_2\delta$ subunit according to ~~any one of claims claim 1, 4 to 6,~~ wherein the $\alpha_2\delta_2\alpha_2\delta$ subunit is not cleaved.
11. (Currently Amended) A calcium channel $\alpha_2\delta_2\alpha_2\delta$ subunit according to ~~any one of claims claim 1, 4 to 10~~ characterized in that it is purified or isolated.
12. (Currently Amended) A calcium channel $\alpha_2\delta_2\alpha_2\delta$ subunit according to ~~any one of claims claim 1, 4 to 11~~ characterized in that it is processed as the full-length or wild-type $\alpha_2\delta_2\alpha_2\delta$ subunit from which it derives is naturally processed.

13. (Currently Amended) A calcium channel $\alpha_2\delta_2\alpha_2\delta$ subunit according to ~~any one of claims claim 1, 4 to 12~~ characterized in that it is producible by the ~~a~~ baculovirus/insect cells expression system.
14. (Currently Amended) A calcium channel $\alpha_2\delta_2\alpha_2\delta$ subunit according to ~~any one of claims claim 1, 4 to 13~~ characterized in that it is produced by the baculovirus/insect cells expression system.
15. (Canceled)
16. (Canceled)
17. (Canceled)
18. (Currently Amended) A calcium channel $\alpha_2\delta_2\alpha_2\delta$ subunit according to ~~any one of claims claim 1, 15 or 17~~ characterized in that ligand is gabapentin, L-Norleucine, L-Allo-Isoleucine, L-Methionine, L- Leucine, L-Isoleucine, L-Valine, Spermine or L-Phenylalanine.
19. (Currently Amended) A calcium channel $\alpha_2\delta_2$ subunit according to ~~any one of claims claim 1, 4 to 18~~ characterized in that its α_2 peptide comprises at least the ligand-interacting part (s) of the complete α_2 peptide from which it ~~originates~~derives, its δ peptide comprises at least the ligand- interacting part (s) of the complete δ peptide from which it ~~originates~~derives, and its δ peptide does not comprise a part of the transmembrane domain of the complete δ peptide from which it ~~derives~~ originates which renders said calcium channel insoluble.
20. (Currently Amended) A calcium channel $\alpha_2\delta_2\alpha_2\delta$ subunit according to ~~any one of claims claim 1, 4 to 19~~ wherein the full-length or wild-type $\alpha_2\delta_2\alpha_2\delta$ subunit from which it derives or originates is $\alpha_2\delta_2$, $\alpha_2\delta_3$ or $\alpha_2\delta_4$.
21. (Canceled)
22. (Currently Amended) A calcium channel $\alpha_2\delta_2\alpha_2\delta$ subunit according to claim 20, ~~or 21~~ characterized in that the amino acid sequence of its unprocessed form ~~comprises or consists of~~ SEQ ID NO: 4, SEQ ID NO: 5 or SEQ ID NO: 6.
23. (Canceled)
24. (Canceled)
25. (Canceled)
26. (Canceled)
27. (Canceled)
28. (Canceled)
29. (Canceled)
30. (Canceled)
31. (Canceled)
33. (Canceled)

34. (Canceled)

35. (Currently Amended) A calcium channel $\alpha_2\delta_2\alpha_2\delta$ subunit characterized in that its α_2 peptide and its δ peptide have 99%, 98%, 97%, 96%, or 95% homology or identity with the α_2 peptide and the δ peptide respectively of a calcium channel $\alpha_2\delta_2\alpha_2\delta$ subunit according to ~~any one of claims~~ claim 14 to 34.

36. (Canceled)

37. (Canceled)

38. (Canceled)

39. (Canceled)

40. (Canceled)

41. (Canceled)

42. (Canceled)

43. (Canceled)

44. (Canceled)

45. (Canceled)

46. (Canceled)

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49. (Canceled)

50. (Canceled)

51. (Canceled)

52. (Canceled)

53. (Canceled)

54. (New) A calcium channel $\alpha_2\delta_2$ subunit according to claim 1 wherein the amino acid sequence consists of SEQ ID NO: 4, SEQ ID NO: 5 or SEQ ID NO: 6 and its α_2 peptide and its δ peptide have 99%, 98%, 97%, 96%, or 95% homology or identity with the α_2 peptide and the δ peptide respectively of a calcium channel $\alpha_2\delta_2$ subunit.